



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/530,823 | 11/18/2005 | Nigel Cronin | 040857/291037 | 7738 |

7590 03/07/2008
Michael R. Reinemann
Cesari and McKenna, LLP
88 Black Falcon Avenue
Boston, MA 02210

| |
|----------|
| EXAMINER |
|----------|

VAN, QUANG T

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3742

| | |
|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

03/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/530,823 | Applicant(s) CRONIN, NIGEL | |
| | Examiner Quang T. Van | Art Unit 3742 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/18/07</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaguine (US 4,446,874), cited by applicant, in view of Lewis et al (US 3,461,261). Vaguine discloses a microwave applicator (12) with decoupled input coupling and frequency tuning functions comprising a coaxial electrical input and a waveguide (40) filled with dielectric (56, 58, 46), the waveguide having a first end and a distal end face, wherein an inner conductor (102) of the coaxial electrical input extends longitudinally within the first end (42) of the waveguide to launch microwaves mode to travel to the distal end face (44) of the waveguide so that microwaves are transmitted when the distal end face (44) is contacted by biological tissue to be treated. However, Vaguine does not disclose launching microwaves in the TM₀₁ mode. Lewis discloses a microwave applicator launching microwaves in the TM₀₁ mode (Figure 2, col. 3, lines 41-47). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Vaguine in the TM₀₁ launching microwaves in the TM₀₁ mode as taught by Lewis in order to improve transmitting microwave energy from one end to the other end.

3. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaguine (US 4,446,874), cited by applicant, in view of Lewis et al (US 3,461,261) and

further in view of Potzl (US 3,065,752), also cited by applicant. Vaguine/Lewis disclose substantially all features of the claimed invention except the inner conductor is axially aligned with the waveguide. Potzl discloses an inner conductor (5) is axially aligned with the waveguide (1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Vaguine an inner conductor is axially aligned with the waveguide as taught by Potzl in order to guide to transmit the microwave energy.

Response to Amendment

4. Applicant's arguments filed 12/13/2007 have been fully considered but they are not persuasive.

Applicant argues "changing a microwave applicator from operating in an electric resonance mode to a magnetic resonance mode is by no means a simple matter, as is suggested by the Office Action. Microwave applicators are often designed to operate in a particular resonance mode", recited in REMARKS, page 7, lines 8-11. This is not found persuasive. One ordinary skill in the art knows that changing a microwave applicator from operating in an electric resonance mode to a magnetic resonance mode is possible and there is some teaching in the art that the applicator can be made with either TE or TM mode or the hybrid mode (see Langberg US 5,370,644, col. 7, lines 31-40). Therefore, the combination of Vaguine (US 4,446,874), in view of Lewis et al (US 3,461,261) is obvious to combine.

5. Applicant also argues that Vaguine's device only discloses the inner conductor extends obliquely (FIG. 4) whereas claim 1 recites "an inner conductor of the coaxial

input extending longitudinal within one end of the waveguide". The examiner disagrees. Although, the Vaguine's device discloses the inner conductor extends obliquely, but it still extending longitudinal within one end of the waveguide. Therefore, it still read on the claimed limitations.

6. Applicant further argues that neither of the references mentions such a diaphragm at all. The examiner disagrees. Vaguine's device discloses diaphragm (62, 64) of low loss dielectric material being provided within the waveguide (40) so as to extend laterally of the waveguide to reflect the microwaves traveling along it, the longitudinal location of the diaphragm (62, 64) being selected in relation to the ends of the waveguide (40) so that the phase of reflections from the diaphragm (62, 64) and said ends serve to reduce or cancel rearward reflections in the coaxial input.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

8. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3742

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang T. Van whose telephone number is 571-272-4789. The examiner can normally be reached on 8:00Am 5:00Pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QV
February 6, 2008

Quang T Van
Primary Examiner
Art Unit 3742

/Quang T Van/

Primary Examiner, Art Unit 3742